

Student Booklet Information

• CFISD – The Endorsements pgs. 7 & 8



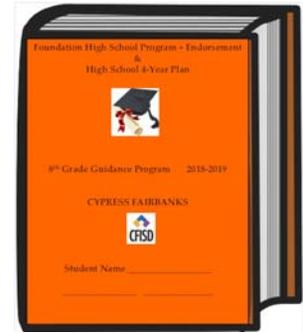
Cypress-Fairbanks ISD - The Endorsements

A student must complete the Foundation High School Program (22 credits), one additional math credit, one additional science credit, and two additional elective credits while completing the specific requirements of his/her selected endorsement.

STEM <i>Science, Technology, Engineering, & Math</i>	Business & Industry	Public Services	Arts & Humanities	Multidisciplinary Studies
<p>Students may earn a STEM endorsement by selecting and completing the requirements from among these 5 options.</p> <p>Note: Algebra II, Chemistry, and Physics are required for the STEM endorsement regardless of the option the student selects from below.</p> <p>Option 1: Computer Science Students take 3 computer science courses.</p> <ul style="list-style-type: none"> • Computer Science I K • Computer Science Principles AP • Computer Science II AP A • Computer Science III K • Project-based Research in Computer Science K <p>Option 2: CTE Students earn four (4) CTE credits by taking at least two (2) courses in the same cluster that lead to a final course in the STEM cluster. At least one (1) of the courses must be an advanced CTE course (3rd year or higher course in a sequence).</p> <p>Option 3: Math Students take Algebra I, Geometry, and Algebra II AND two (2) of the following courses for which Algebra II is a prerequisite.</p> <ul style="list-style-type: none"> • Pre-Calculus • Calculus AB or BC • Statistics AP • AQR K • Advanced Algebra • College Algebra K <p>Option 4: Science Students take Biology, Chemistry, and Physics, AND two (2) of the following courses.</p> <ul style="list-style-type: none"> • AP Chemistry • AP Biology • Anatomy & Physiology • AP Environmental Science • AP Physics I • AP Physics II • AP Physics C • Aquatic Science • Astronomy • Earth & Space Science • Environmental Systems • Forensic Science • Engineering Design & Problem Solving • Advanced Animal Science • Advanced Plant and Soil Science • Pathophysiology <p>Option 5: Combination Students take Algebra II, Chemistry, and Physics, an additional math course, an additional science course, AND three (3) additional credits from Option 1 (Computer Science) and/or Option 2 (CTE) in the STEM endorsement. Combination plan must include one (1) advanced CTE course.</p>	<p>Students may earn a Business & Industry endorsement by selecting and completing the requirements from among these 3 options.</p> <p>Option 1: CTE Students earn four (4) credits by taking at least two (2) courses in the same cluster in one of the following areas.</p> <ul style="list-style-type: none"> • Agriculture, Food, and Natural Resources • Architecture and Construction • Arts, Audio/Video Technology, and Communication • Business Management and Administration • Finance • Hospitality and Tourism • Information Technology • Manufacturing • Marketing • Transportation, Distribution, and Logistics • Logistics <p>with at least one (1) advanced (3rd year or higher course in the sequence).</p> <p>Option 2: English Students take four (4) English elective credits that include three levels in one of the following areas.</p> <ul style="list-style-type: none"> • Advanced Journalism: Newspaper or Yearbook • Debate <p>Option 3: Combination Students take a coherent sequence of four (4) credits from Option 1 or 2. Combination plan must include one (1) advanced CTE course.</p>	<p>Students may earn a Public Services endorsement by selecting and completing the requirements from among these 2 options.</p> <p>Option 1: CTE Students earn four (4) credits by taking at least two (2) courses in the same career cluster in one of the following areas.</p> <ul style="list-style-type: none"> • Education and Training • Health Science • Human Services <p>With at least one (1) advanced (3rd year or higher course in the sequence).</p> <p>Option 2: JROTC Student takes four (4) JROTC courses for 4 credits.</p>	<p>Students may earn an Arts & Humanities endorsement by selecting and completing the requirements from among these 3 options.</p> <p>Option 1: Social Studies Students take five (5) social studies courses for 5 credits.</p> <p>Option 2: Languages Other Than English (Foreign Language) Students take four (4) levels of the same foreign language.</p> <p style="text-align: center;">OR</p> <p>Students take two (2) levels of one foreign language AND two (2) levels of a different foreign language (two levels in each of two different foreign languages for 4 credits).</p> <p>Option 3: Fine Arts Students take four (4) courses in the same fine arts area for 4 credits.</p> <p style="text-align: center;">OR</p> <p>Students take two (2) courses in one fine arts area AND two (2) courses in a different fine arts area (two courses in each of two different fine arts areas for 4 credits).</p>	<p>Students may earn a Multidisciplinary Studies endorsement by selecting and completing the requirements from among these 2 options.</p> <p>Option 1: Four by Four (4 X 4) Students take four (4) courses in each of the four core content areas.</p> <ul style="list-style-type: none"> • Four (4) English credits including English IV • Four (4) math credit • Four (4) science credits including biology and chemistry and/or physics • Four (4) social studies credits <p>Option 2: AP or Dual Students take four (4) Advanced Placement (AP) courses for four (4) credits in English, math, science, social studies, foreign language, or fine arts.</p> <p style="text-align: center;">OR</p> <p>Students take four (4) Dual credit courses for four (4) credits in English, math, science, social studies, foreign language, or fine arts.</p>

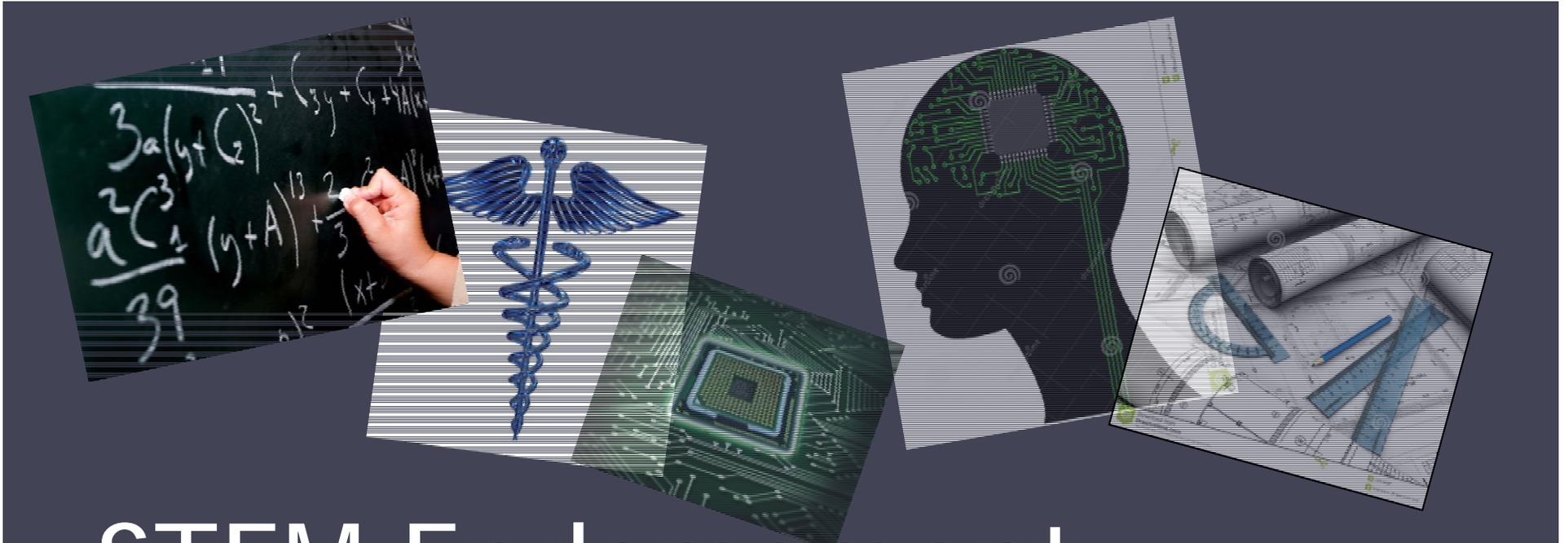


Student Booklet Information



- Endorsement Sections will include:
 - Related Careers chart
 - Career Glossary
 - Endorsement Options listing requirements
 - Flow Chart listing courses, sequence of study, credits and required prerequisites
 - Samples of Endorsement course sequences to take 9th-12th grade based on career interest
 - Course descriptions including the grade the course can be taken, whether the course is Advanced (A), may earn an Industry Certificate (C), or may earn a Performance Acknowledgement (P)





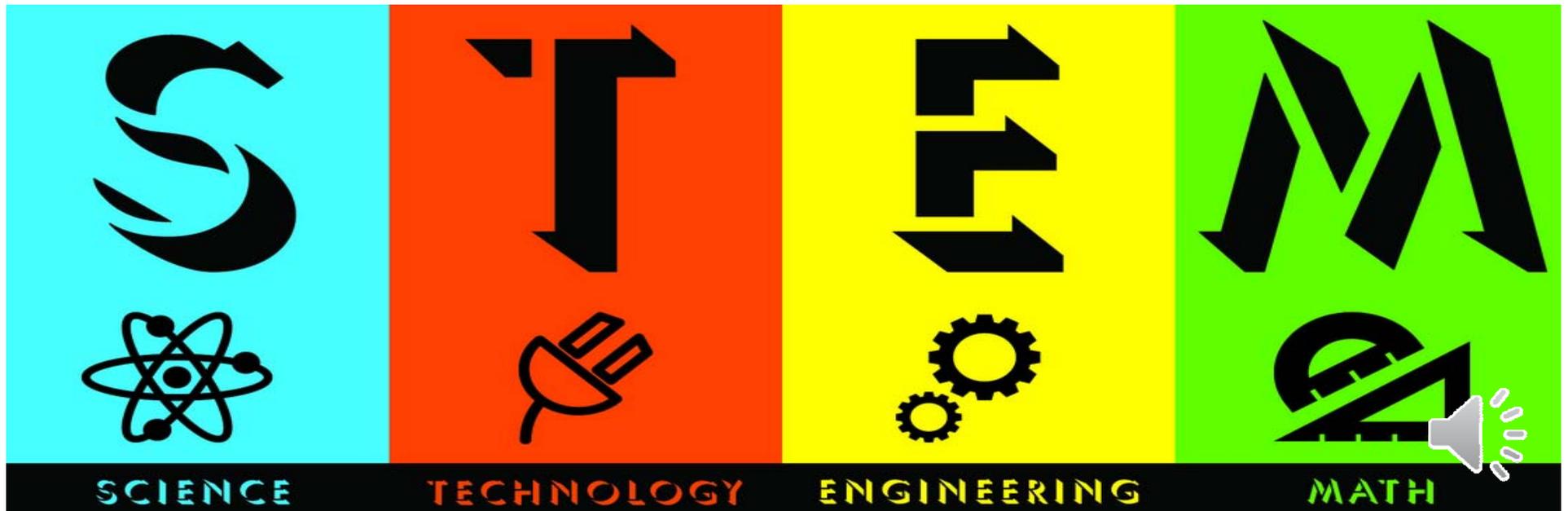
STEM Endorsement

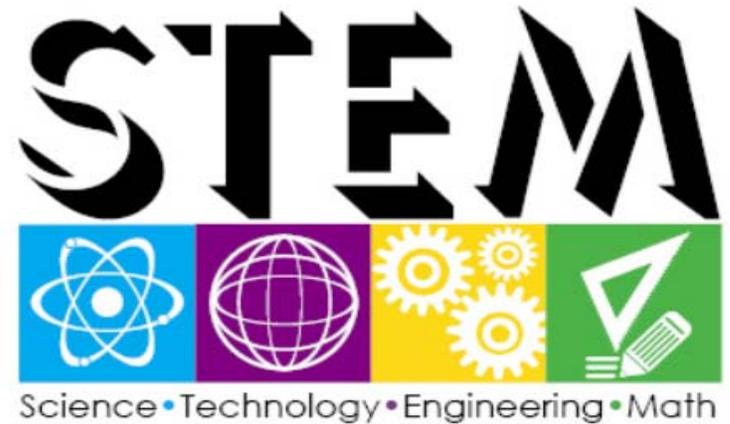
Science, Technology,
Engineering, & Math



Click to watch STEM video...

<https://www.youtube.com/embed/zgB-Diy8imo?rel=0?ecver=1>





Overview

- This endorsement includes courses directly related to science, technology (including computer science), engineering, and advanced mathematics.
- You would choose this endorsement if you have an interest in or if you plan to study or pursue a career in one of the following areas:



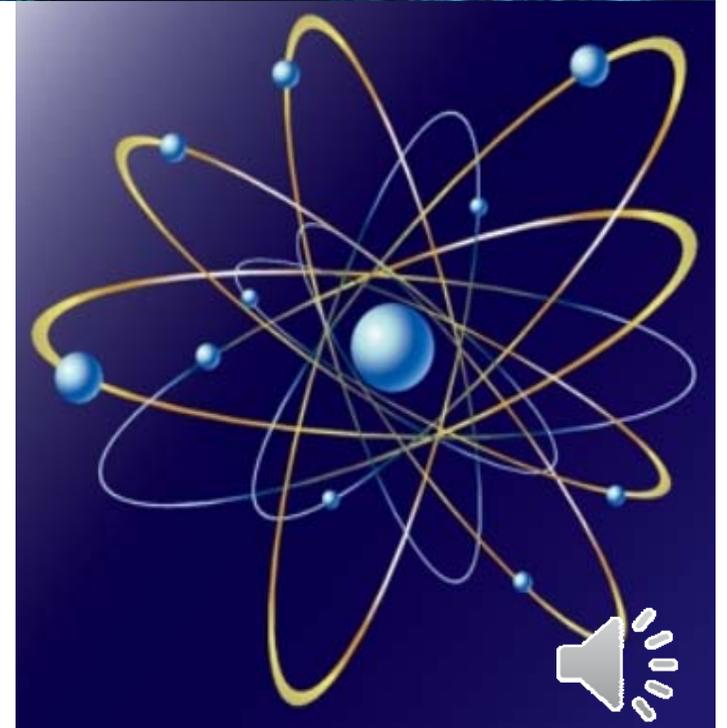
Science

Possible career areas:

- Medical/Dental
- Astronomy
- Environmental Science
- Forensic Science
- Geology
- Marine Biology
- Meteorology
- Physics
- Zoology

Advanced Science courses available:

- AP courses in Biology, Chemistry, Physics, & Environmental Science
- Aquatic, Forensic, Earth & Space, Astronomy
- Anatomy & Physiology, Pathophysiology
- Engineering Design & Problem Solving
- Advanced Animal, Advanced Plant & Soil



Technology (Computer Science)

- Possible career areas:
 - Computer Programming & Analysis
 - Software, Game & Web Design

- Courses available:
 - Computer Science I K
 - Computer Science Principles AP
 - Computer Science II AP A
 - Computer Science III K
 - Project-based Research in Computer Science K





Engineering (CTE)

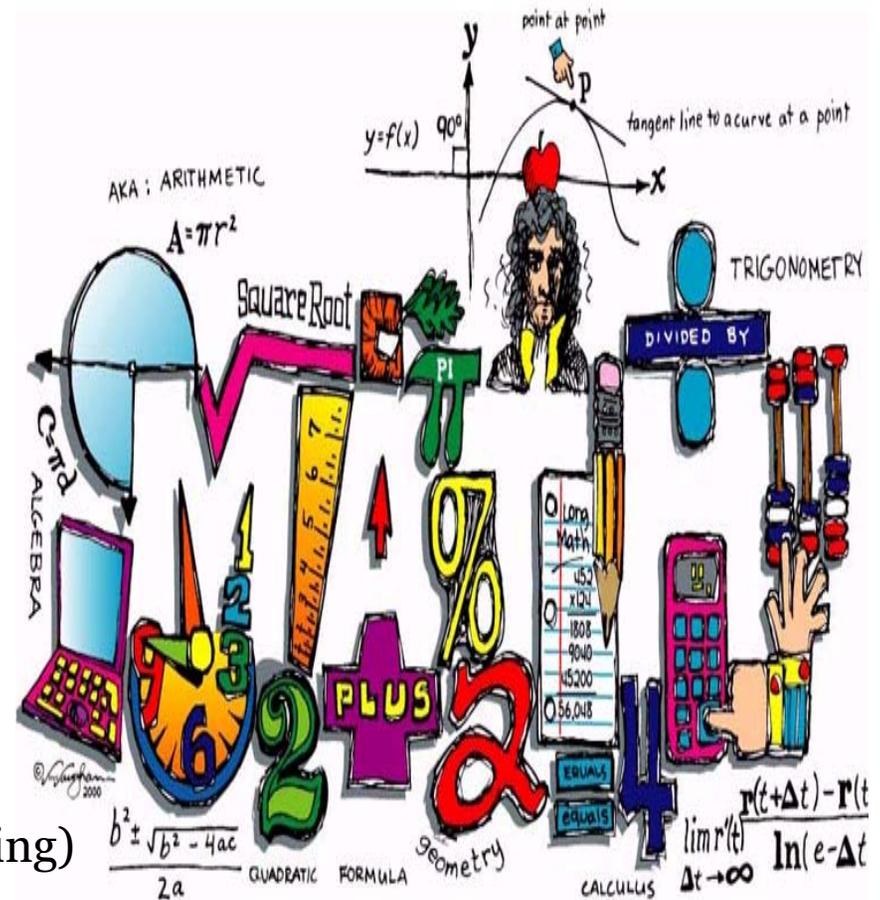
- Possible career areas:
 - Aerospace
 - Biomedical
 - Chemical
 - Civil
 - Electrical
 - Industrial
 - Mechanical
 - Petroleum

- Some of the courses available:
 - Principles of Applied Engineering
 - Engineering Design & Presentation I & II
 - Robotics I & II
 - Project-based Research in STEM
 - Engineering Design & Problem Solving K
 - Practicum in STEM



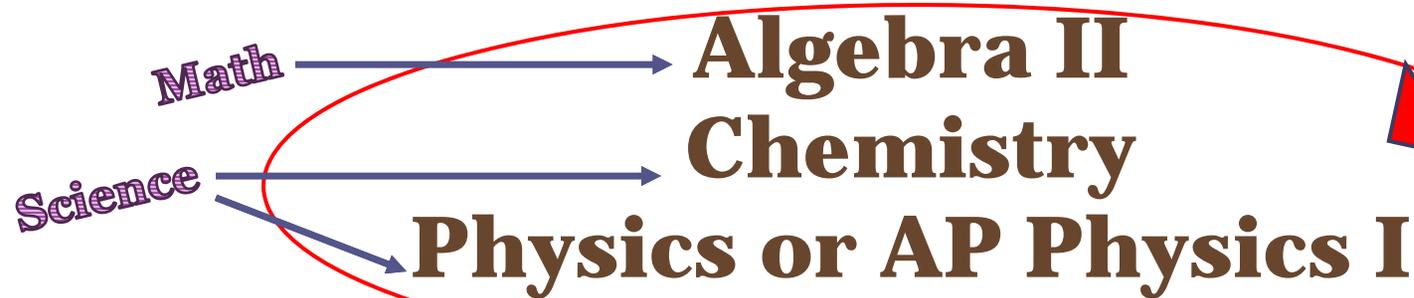
Math

- Possible career areas:
 - Accounting
 - Data Analysis
 - Economics
 - Financial Planning/Stocks
 - Research Development
 - Statistics
- Advanced Math Courses available:
 - Precalculus
 - Calculus AP (AB or BC)
 - Statistics AP
 - AQR K (Advanced Quantitative Reasoning)
 - Advanced Algebra
 - College Algebra K



Important!

All STEM endorsements must include:



IN ADDITION TO the courses outlined in the specific option chosen

The STEM endorsement can be earned by completing one of the following 5 options:

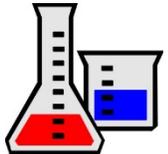


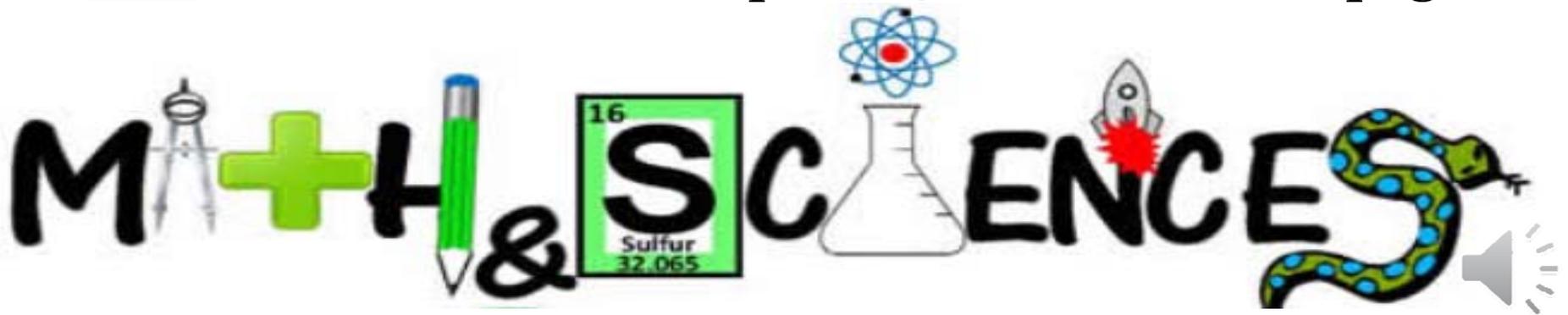
Option 2: CTE (Engineering)

- Students earn 4 credits by taking at least 2 courses in the **STEM cluster**
- At least 1 of the courses must be an advanced level (3rd year or higher course in the sequence)
- Example:
 - Principles of Applied Engineering
 - Engineering Design & Presentation I
 - Engineering Design & Presentation II (2 credits)



Options 3 & 4: Math & Science

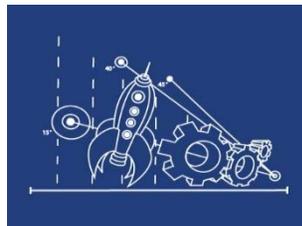
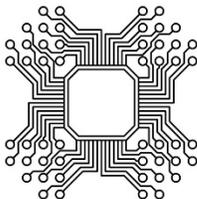
- **Option 3: Math** 
 - 5 credits: Algebra I, Geometry, & Algebra II **and** 2 courses for which Algebra II is a prerequisite from the Option 3: Math list on page 7
- **Option 4: Science** 
 - 5 credits: Biology, Chemistry, & Physics (or AP Physics I) **and** 2 courses from the Option 4: Science list on page 8



Option 5: Combination

- Algebra II, Chemistry & Physics (or AP Physics I)
- 4th math & 4th science **and**
- **3** more credits from:
 - Option 1 (Computer Science)
 - and/or
 - Option 2 (Engineering)

Note: If the Combination plan includes a CTE (Engineering) course, at least one (1) course must be advanced

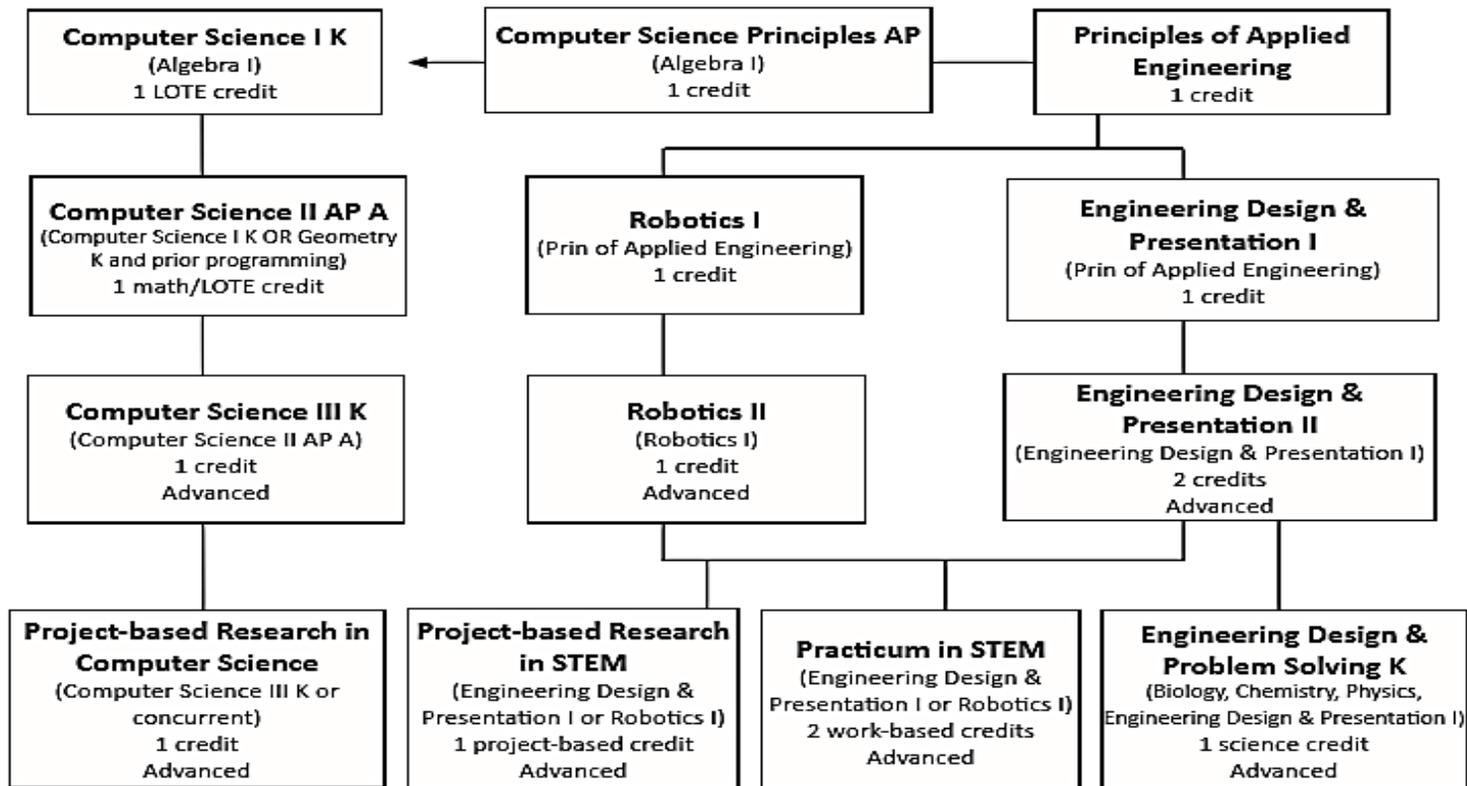




SCIENCE, TECHNOLOGY, ENGINEERING & MATHEMATICS (STEM)
Endorsement: Science, Technology, Engineering & Mathematics (STEM)



(required prerequisite)



Sample course sequences

Career Interest	9 th Grade	10 th Grade	11 th Grade	12 th Grade
Engineering	Principles of Applied Engineering	Engineering Design & Presentation I	*Engineering Design & Presentation II (2)	* Eng Design & Prob Solv K (1 science credit) <u>or</u> *Practicum in STEM (2) <u>or</u> *Project-based Research in STEM
Engineering (PLTW) <i>(Cy Creek and Cy Lakes only)</i>	Introduction to Engineering	Principles of Engineering K (1 science credit)	*Digital Electronics K (1 math credit) <u>or</u> *Aerospace Engineering	*Engineering Design & Development K <u>or</u> *Eng Design & Prob Solv K (1 science credit)
Robotics	Principles of Applied Engineering	Robotics I	*Robotics II	*Practicum in STEM (2) <u>or</u> *Project-based Research in STEM
Computer Science – including overview of computer technology	Computer Science Principles AP	Computer Science IK (1 – LOTE credit)	Computer Scienc II AP A (1 – Math/LOTE credit)	*Computer Science III K
Computer Science – including project option such as mobile apps	Computer Science I K (1 – LOTE credit)	Computer Science II AP A (1 – Math/LOTE credit)	*Computer Science III K	*Project-based Research in Computer Science K
Computer Networking	See Information Technology cluster in Business & Industry endorsement			



Explore

STEM Careers - page 10



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